



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/676,017	09/29/2000	Bruno Murari	851063.453	3227

7590 08/27/2002  
E. Russell Tarleton  
Seed Intellectual Property Law Group PLLC  
701 Fifth Avenue, Suite 6300  
Seattle, WA 98104-7092

EXAMINER

PEREZ RAMOS, VANESSA

ART UNIT	PAPER NUMBER
----------	--------------

1765

DATE MAILED: 08/27/2002

5

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/676,017

Applicant(s)

MURARI ET AL.

Examiner

Vanessa Perez-Ramos

Art Unit

1765

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.

- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: .

DETAILED ACTION

*Specification*

- What material are you talking about?*
1. The incorporation of essential material in the specification by reference to a foreign application or patent, or to a publication is improper. Applicant is required to amend the disclosure to include the material incorporated by reference. The amendment must be accompanied by an affidavit or declaration executed by the applicant, or a practitioner representing the applicant, stating that the amendatory material consists of the same material incorporated by reference in the referencing application. See *In re Hawkins*, 486 F.2d 569, 179 USPQ 157 (CCPA 1973); *In re Hawkins*, 486 F.2d 579, 179 USPQ 163 (CCPA 1973); and *In re Hawkins*, 486 F.2d 577, 179 USPQ 167 (CCPA 1973).

**Claim Rejections - 35 USC § 103**

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bhatt (U.S. 5,822,856) in view of Bickford et al. (U.S. 5,028,983).

In regard to claims 1-3, 8 and 15-20, Bhatt et al. discloses a method comprising: having a dry film with an adhesive side (col. 4, lines 1-18). Furthermore, Bhatt discloses the formation of a sacrificial layer (col. 5, line 37); the formation of holes, which read on Applicant's "forming" and "opening" "windows" (col. 6, lines 12-17), and further recognizes that these holes might

Application/Control Number: 09/676,017  
Art Unit: 1765

need to be unfilled, which reads on Applicant's "without penetrating any underlying cavities"; depositing a dielectric layer (col. 7, line 33) and also depositing a conductive layer (col. 6, lines 17-19), which is later "selectively" removed (col. 6, lines 52-56).

Bhatt does not disclose a step of forming a mask on the dry film, and is silent about the removal of the sacrificial film.

Bickford discloses the use of masks over dry films, and further acknowledges that these are widely used, and serve the purpose of protecting areas of the layer while exposing other areas of the same layer, as needed, when forming holes and openings during semiconductor manufacturing.

It is the Examiner's position that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Bhatt by forming a mask on the dry film, as per Bickford, because this is a well known procedure in the art, as evidenced by Bickford's disclosure, and furthermore, because the mask will help protect the areas of the underlying layers that need to be protected, while exposing those that need to be exposed, which is extremely desirable during semiconductor manufacturing. Regarding the removal of the sacrificial layer, it is the Examiner's position that it is well known in the art that once the purpose of sacrificial layers is accomplished, such layers are removed (and hence the name "sacrificial").

In regard to claims 4 and 5, Bickford discloses that the use of resins, and ,more specifically, the use of RISTON by Dupont, is well known in the art of semiconductor manufacturing.

In regard to claims 6-7, 14, 21 and 23-24, it is the Examiner's position that the claimed methods for removing layers are well known in the art, and its selection would have been

Application/Control Number: 09/676,017  
Art Unit: 1765

obvious to one of ordinary skill with the anticipation of an expected result (i.e., proper layer removal).

In regard to claims 9-10, the use of hark masks is well known in the art, as evidenced by Bickford's disclosure.

In regard to claims 11-13 and 22, the division of wafers into individual dices is the common step done in the art, and would have been obvious to one of ordinary skill at the time of the invention.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vanessa Perez-Ramos whose telephone number is 703-306-5510. The examiner can normally be reached on Mon-Thurs 7:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benjamin Utech can be reached on 703-308-3836. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-5665.

Vanessa Perez-Ramos  
Examiner  
Art Unit 1765

VPR  
August 8, 2002

## DETAILED ACTION

### *Specification*

1. The incorporation of essential material in the specification by reference to a foreign application or patent, or to a publication is improper. Applicant is required to amend the disclosure to include the material incorporated by reference. The amendment must be accompanied by an affidavit or declaration executed by the applicant, or a practitioner representing the applicant, stating that the amendatory material consists of the same material incorporated by reference in the referencing application. See *In re Hawkins*, 486 F.2d 569, 179 USPQ 157 (CCPA 1973); *In re Hawkins*, 486 F.2d 579, 179 USPQ 163 (CCPA 1973); and *In re Hawkins*, 486 F.2d 577, 179 USPQ 167 (CCPA 1973).

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bhatt (U.S. 5,822,856) in view of Bickford et al. (U.S. 5,028,983).

In regard to claims 1-3, 8 and 15-20, Bhatt et al. discloses a method comprising: having a dry film with an adhesive side (col. 4, lines 1-18). Furthermore, Bhatt discloses the formation of a sacrificial layer (col. 5, line 37); the formation of holes, which read on Applicant's "forming" and "opening" "windows" (col. 6, lines 12-17), and further recognizes that these holes might

Application/Control Number: 09/676,017

Art Unit: 1765

need to be unfilled, which reads on Applicant's "without penetrating any underlying cavities"; depositing a dielectric layer (col. 7, line 33) and also depositing a conductive layer (col. 6, lines 17-19), which is later "selectively" removed (col. 6, lines 52-56).

Bhatt does not disclose a step of forming a mask on the dry film, and is silent about the removal of the sacrificial film.

Bickford discloses the use of masks over dry films, and further acknowledges that these are widely used, and serve the purpose of protecting areas of the layer while exposing other areas of the same layer, as needed, when forming holes and openings during semiconductor manufacturing.

It is the Examiner's position that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Bhatt by forming a mask on the dry film, as per Bickford, because this is a well known procedure in the art, as evidenced by Bickford's disclosure, and furthermore, because the mask will help protect the areas of the underlying layers that need to be protected, while exposing those that need to be exposed, which is extremely desirable during semiconductor manufacturing. Regarding the removal of the sacrificial layer, it is the Examiner's position that it is well known in the art that once the purpose of sacrificial layers is accomplished, such layers are removed (and hence the name "sacrificial").

In regard to claims 4 and 5, Bickford discloses that the use of resins, and ,more specifically, the use of RISTON by Dupont, is well known in the art of semiconductor manufacturing.

In regard to claims 6-7, 14, 21 and 23-24, it is the Examiner's position that the claimed methods for removing layers are well known in the art, and its selection would have been

obvious to one of ordinary skill with the anticipation of an expected result (i.e., proper layer removal).

In regard to claims 9-10, the use of hark masks is well known in the art, as evidenced by Bickford's disclosure.

In regard to claims 11-13 and 22, the division of wafers into individual dices is the common step done in the art, and would have been obvious to one of ordinary skill at the time of the invention.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vanessa Perez-Ramos whose telephone number is 703-306-5510. The examiner can normally be reached on Mon-Thurs 7:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benjamin Utech can be reached on 703-308-3836. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-5665.

VPR  
August 8, 2002

Vanessa Perez-Ramos  
Examiner  
Art Unit 1765

  
ROBERT KUNEMUND  
PRIMARY EXAMINER